Issues for Industrial CHP:

Opportunities/Barriers in the Southeast

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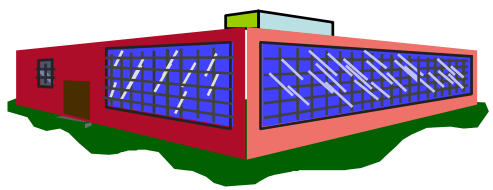
Southeast Regional CHP Application Center Meeting,
January 8, 2004

ITP Top Energy Use Sectors

(industry consumes 38 percent of all U.S. energy)

- **Aluminum—1.3 percent of industrial energy use**
- **Chemicals—19.7 percent**
- **Forest Products—11.7 percent**
- **Glass Manufacturing—0.9 percent**
- **Metalcasting—0.7 percent**
- **Mining—2.8 percent**
- **Petroleum—23.2 percent**
- **Steel—6.3 percent**



Summary of Southeast/DOE Industry Programs

- **Alabama :** workshops w/ chemical industry.
- **Arkansas :** statewide inventory; misc. best practices workshops/training.
- **Florida :** inventory of fiberglass industry; interest in forest products.
- **Georgia:** on-going work w/ forest products/biomass industries

Summaries (con'd)

- **Kentucky :** ongoing work w/ aluminum, ag, forest products, chemical, mining and steel.
- **Mississippi :** ag-bio-based paint project.
- **North Carolina :** ongoing work w/ ag, chemicals, forest products,mining and new glass project.

Summaries (con'd)

- **Puerto Rico :** new pharmaceuticals.
- **South Carolina :** ongoing work w/ metalcasting; new chemical, forest products and mining project.
- **Tennessee :** ongoing work w/ forest products and metalcasting.
- **Virgin Islands:** none, but receptive to all ideas (good or bad!).

Potential for Industrial CHP

- Straight CHP using waste heat from power for process heating
- CHP w/ absorption chilling for industry with substantial cooling needs, e.g. chemical or petroleum
- Straight Power w/ no heat recovery for large energy needs, e.g. combined cycle

(http://www.eere.energy.gov/der/chp/pdfs/industrial_chp.pdf)

Barriers for Industrial CHP

- Economics and tax treatment
- Utility policies and regulation
- Planning, zoning and codes
- Environmental regulations
- Product performance/availability
- Awareness/information and education
- Supporting market infrastructure

BMW Case Study: Greer, SC

Landfill Gas Recycling Program

- Utilizes 4 retrofit 1.25 MW gas turbines
- Required 9.5 mile dedicated gas pipeline

- Purchases 4,000 cfm and produces ~4.4 MW (about 25% power needs)
- Supplies 275 degree water—100% of hot water requirements

Working Together: DER & ITP

- Take advantage of existing networks, e.g. Ga. Industrial Tech. Partnership, NC Industries of the Future, etc.
- Bring in other resources such as IAC/Ga. Tech, P2 agencies, MEP.

Let's try not to re-invent the wheel!